

The things that made them successful in their native range and popular with fish farmers also make them a very dangerous invasive species. In recent years, they have been introduced around the world where they wreak havoc on freshwater ecosystems, eating and competing with native species.

Why are they so dangerous? For starters, they are omnivorous, so they have the potential to disrupt aquatic plants and animals. They even have two sets of jaws.

The pharyngeal bones in their throat have teeth and muscles to help tilapia use them as a second set of jaws. With this adaptation, they are able to eat more things and do so more efficiently.

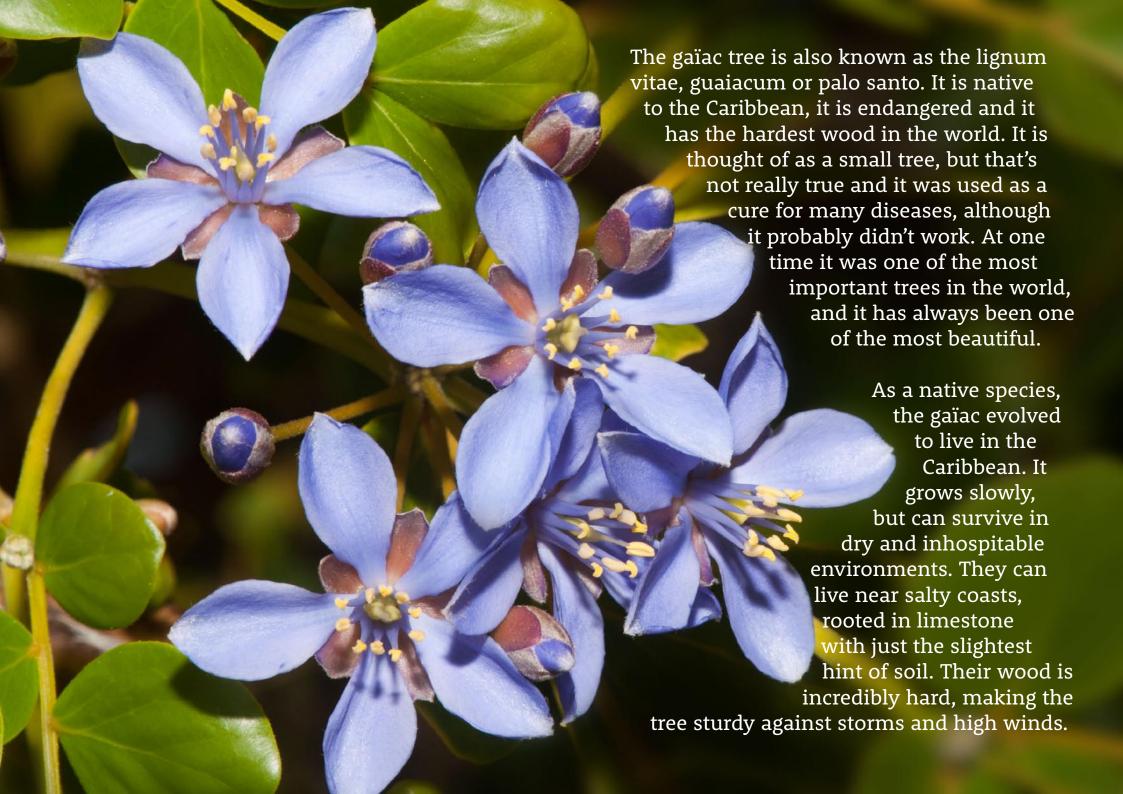
Tilapia grow quickly and reproduce with gusto. They can't handle cold temperatures or very salty water—something we see in the Great Salt Pond when increased salinity causes large die-offs of tilapia. Otherwise, in tropical areas like St. Martin, they can be all but unstoppable. They are extremely common in the Great Salt Pond and in many waterways and ponds on the island. We don't know for sure how they impact native species of fish, shrimp and aquatic life, but it's probably not good.

To their credit, they do eat mosquito larvae and may eat things that other fish avoid. Perhaps they eat the algae that grows too much when human-introduced nutrients overwhelm ponds. Unfortunately, the cost to the local ecosystem is probably higher than the benefits.

At Amuseum Naturalis in Grand Case, a surprisingly fearsome gang of inch-long tilapia prowl the aquarium eating the roots of the water hyacinth, algae growing on the backs of snails and any guppies small enough to fit in their mouths. They are the first to devour tiny pellets of fish food, and their appetite seems insatiable. It's easy to see why they are considered one of the most dangerous invasive species on earth.



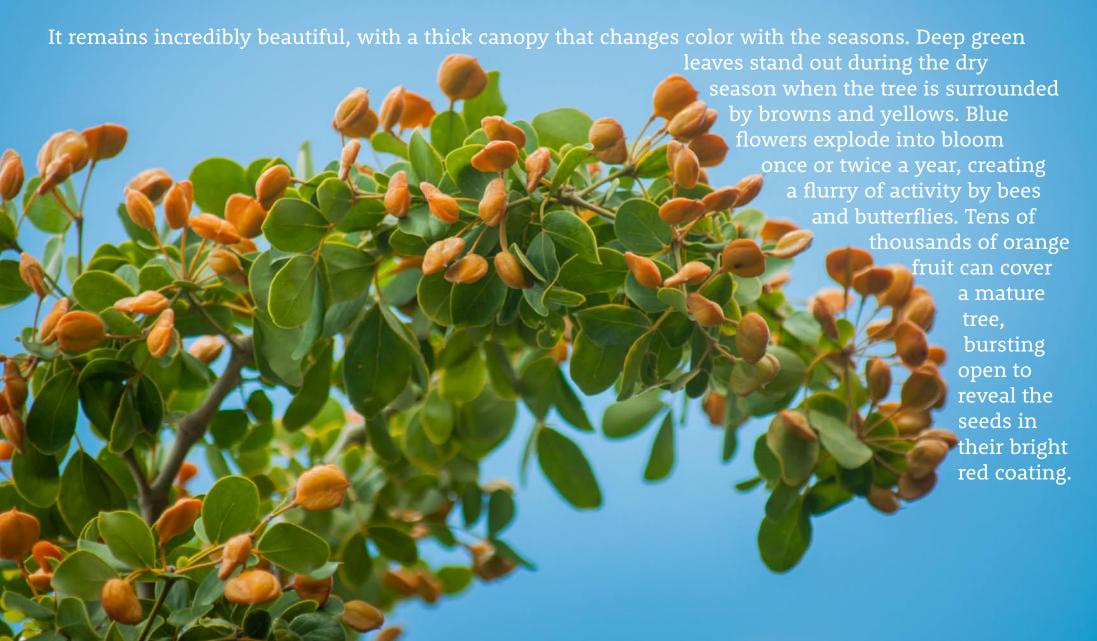






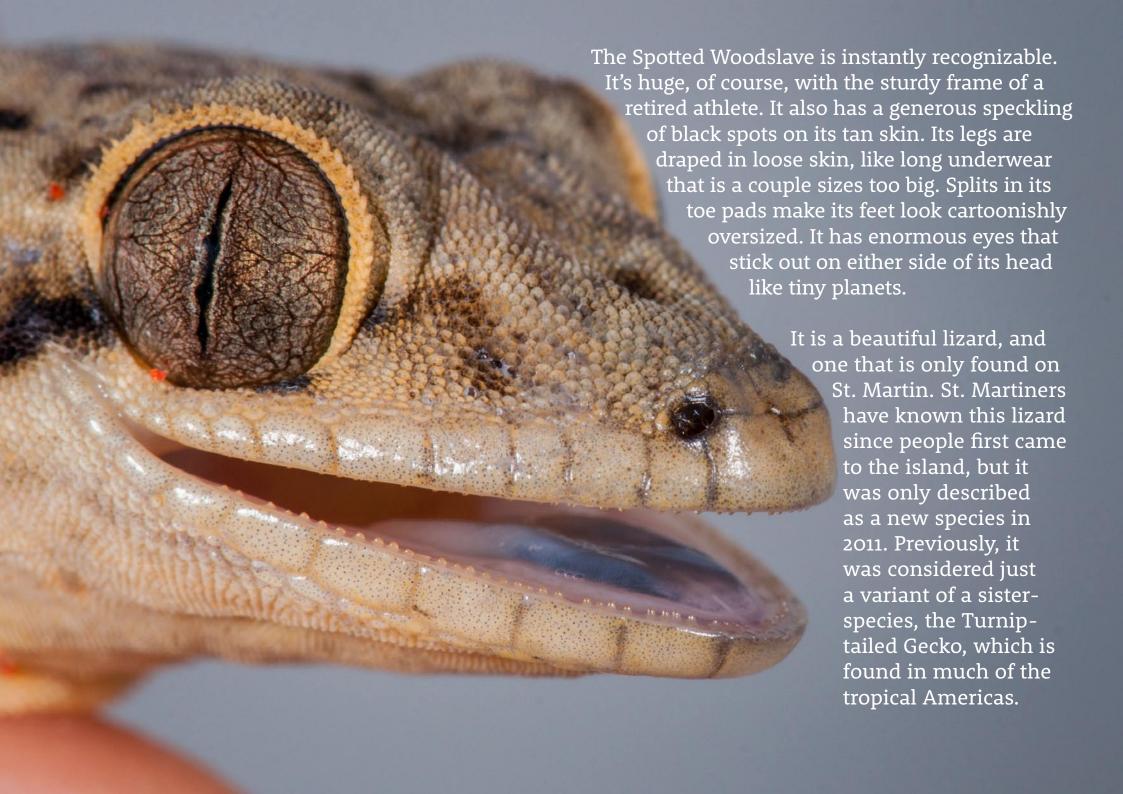
The hardest wood in the world was also very valuable. Gaïac trees were cut down everywhere they could be found, and fashioned into a great many different objects. Mortars and pestles use to pound arrowroot were made from gaïac, as were billiard balls, police truncheons and clock gears. It was also favored for variety of ship parts, like deadeyes and shaft bearings.

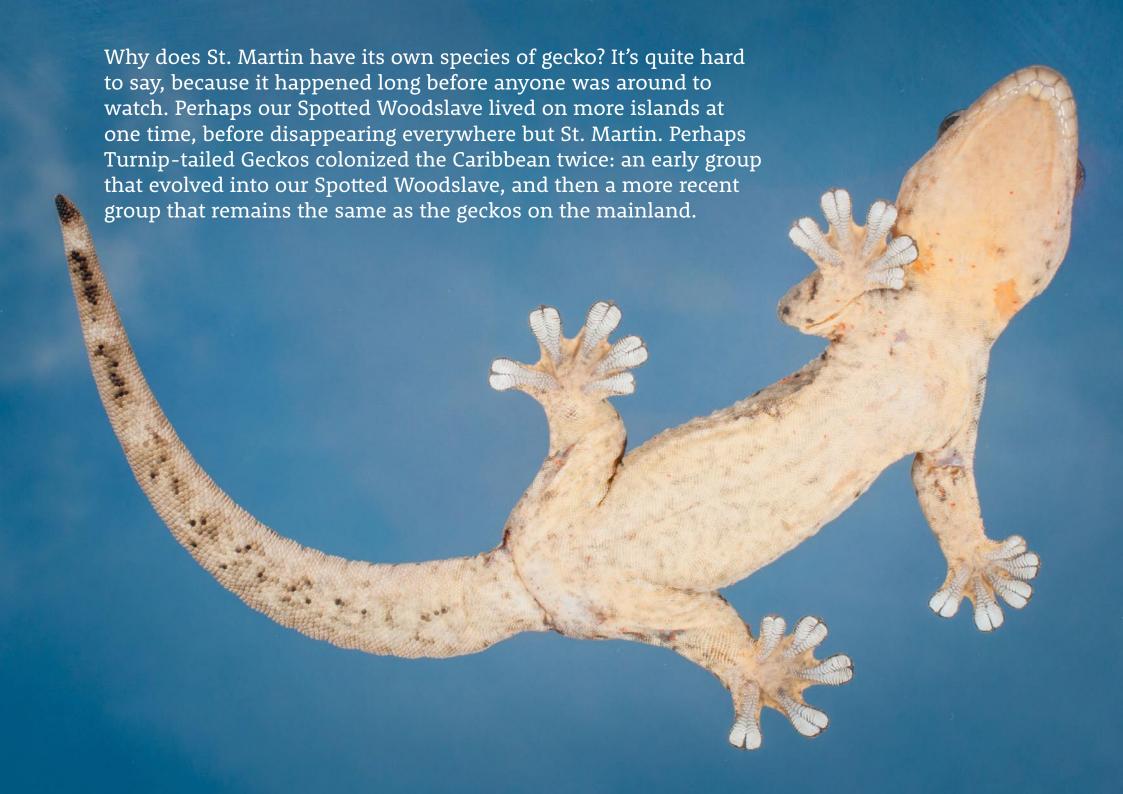
In time, metals, plastics and other materials replaced gaïac wood for most uses, but by then much damage had been done to this tree. The thousand-year-old trees reaching nearly 20 meters into the sky are almost entirely gone now. The hundred-year-old trees that have grown up since then lead us to believe that the gaïac is a small species.











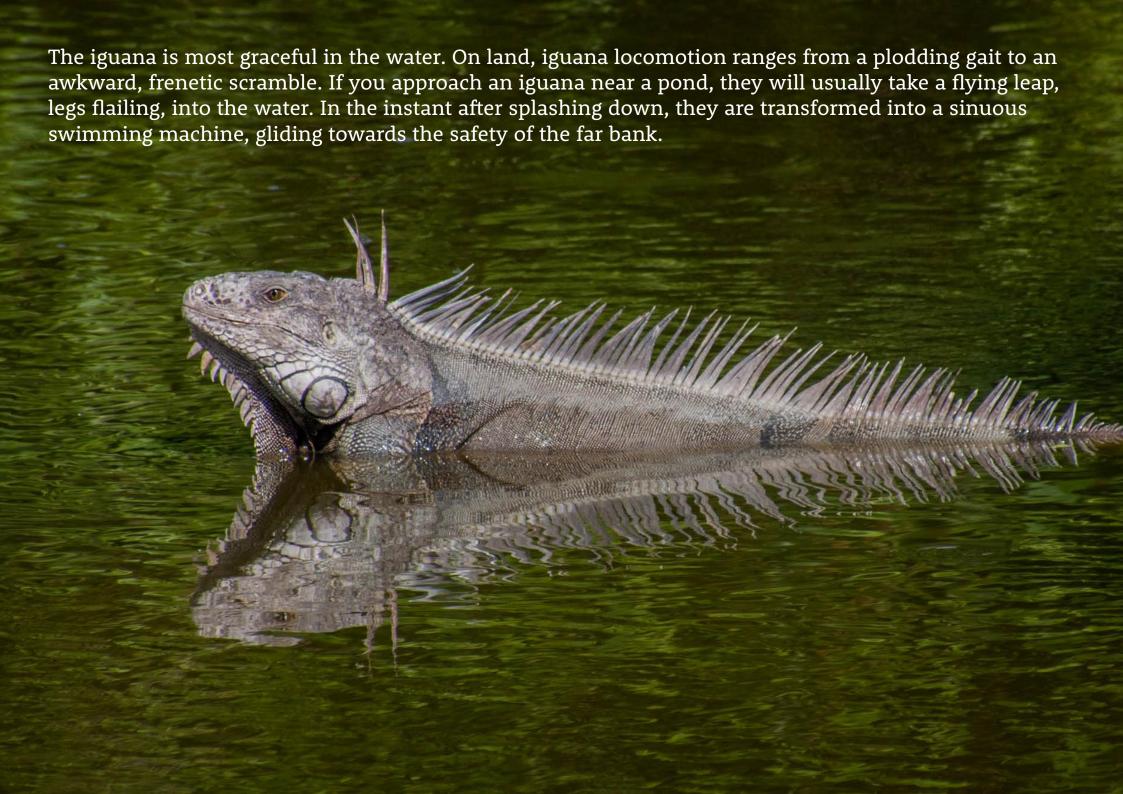




The Green Iguana is named after a color it often outgrows. Freshly-hatched iguanas are a brilliant acid green. As they age, their color fades to darker greens and shades of gray. Male iguanas wear bright orange during the breeding season, most often on their legs and feet. Despite their diverse and splendid range of colors, all the iguanas on St. Martin are the same species.

The iguana is a gentle giant, more or less. They have up to a hundred sharp teeth, but they mostly use them to eat the leaves and fruit that make up their vegetarian diet. They have a row of spines down their back, but just to protect them from predators. They have sharp claws, but they use them to climb the trees where they spend most of their time.

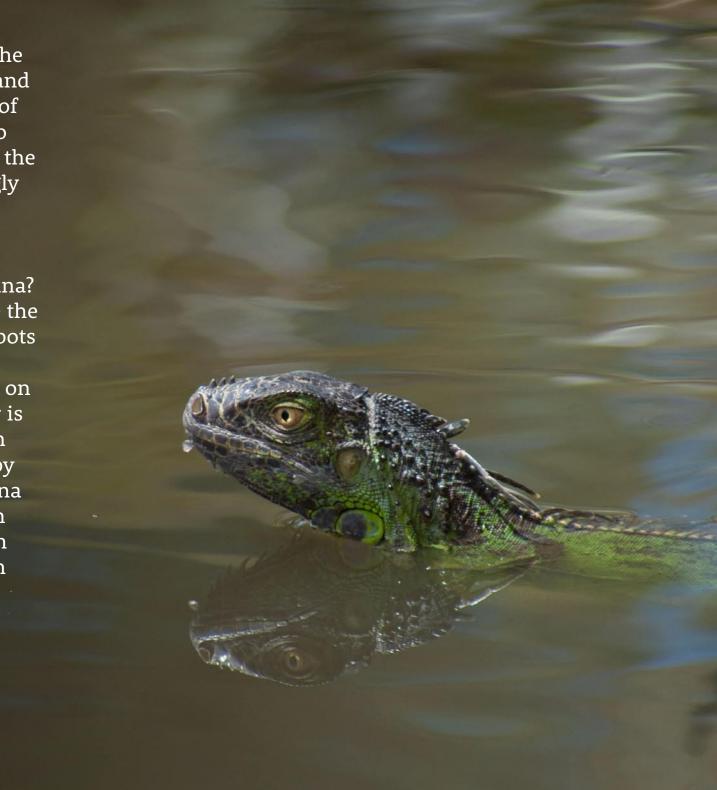






Flamingo Pond was filled as part of the airport expansion a few years later, and iguanas were brought to other parts of the island. These refugees went on to prosper in their adopted home. Over the next decade, they became increasingly common and they are now found all over St. Martin in large numbers.

What is the impact of the Green Iguana? It's hard to say exactly, but they have the potential to damage or kill trees in spots where there are too many of them. They are also known to eat bird eggs on occasion. Perhaps the biggest danger is the possibility of Green Iguanas from St. Martin making their way to nearby islands with endangered native iguana populations. Competition with Green Iguanas and interbreeding with them are a huge threat to native iguanas in the Caribbean.

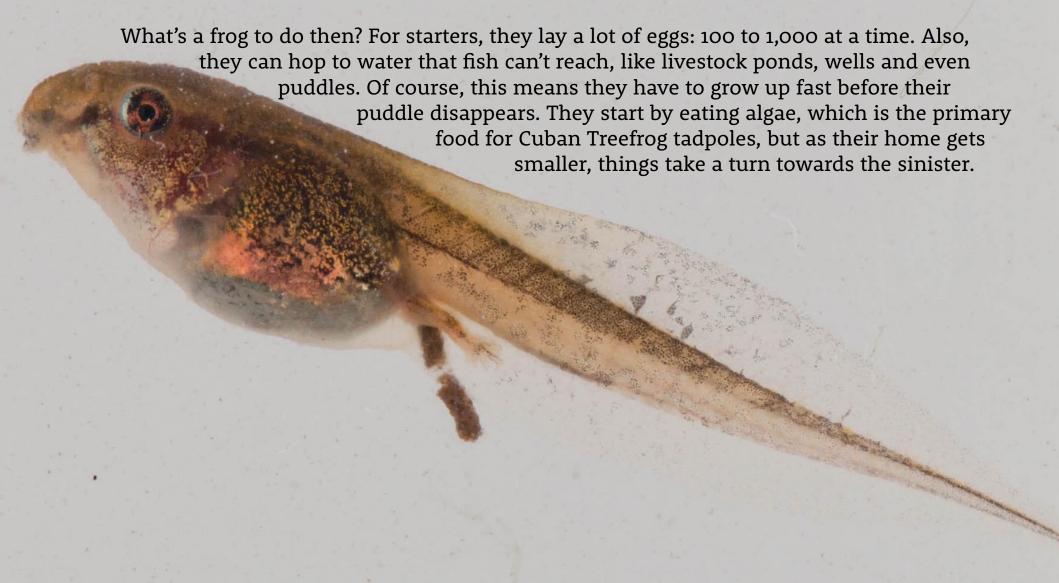




The Cuban Treefrog is the only amphibian on St. Martin that needs to live in fresh water as it develops, and on St. Martin this is a very challenging proposition.

The Cuban Treefrog is native to Cuba, the Bahamas and the Cayman Islands, but humans have brought it to many other places. It now lives in Florida, Hawaii and many Caribbean islands. Although it needed the help of humans to get to new lands—probably as a stowaway with shipments of plants or other materials—it is very adept at colonizing new places once it arrives.

St. Martin poses a number of challenges for the Cuban Treefrog. For starters, there simply isn't much fresh water. Most of the ponds on the island are salty or brackish, which is not good if you have permeable skin that can absorb salt. There are no real rivers, and most of the fresh water in guts and roadside ditches is swarming with guppies and other fish that would love to eat young tadpoles.







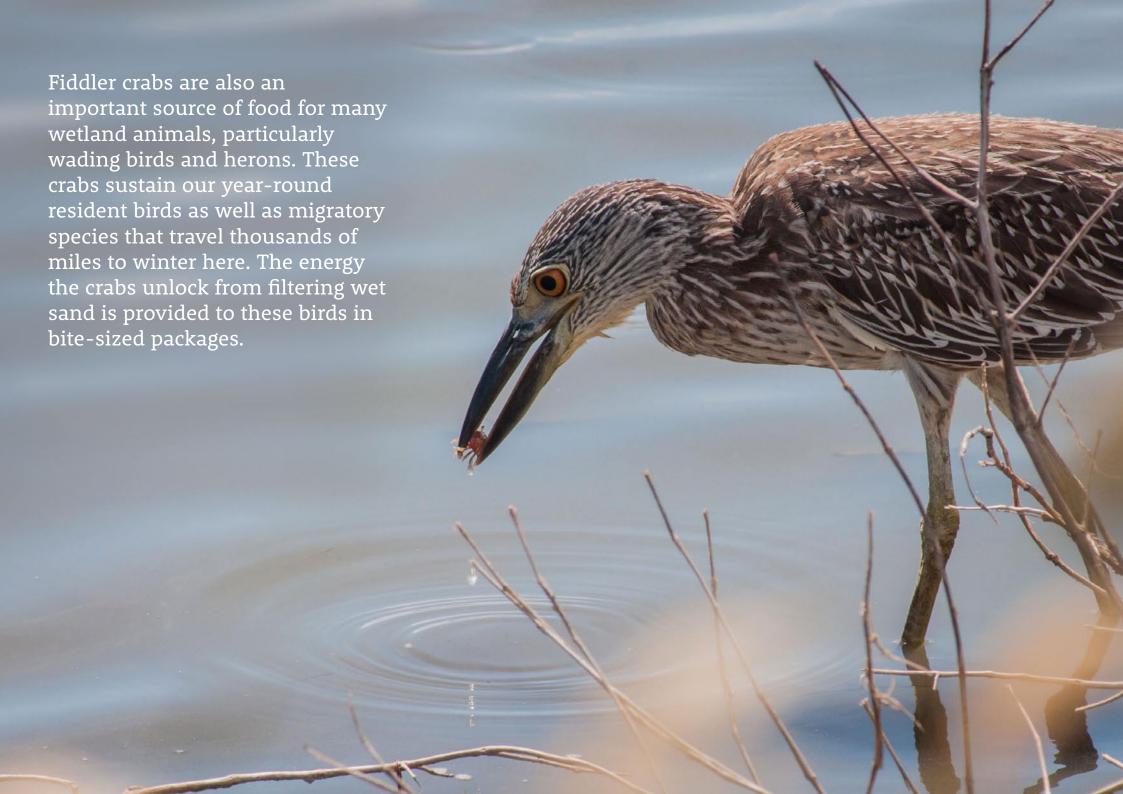


Fiddler crabs are small, a couple inches wide at most. On St. Martin, they are most common on the edges of our salt ponds, on sandy flats and beneath mangrove trees. Male fiddler crabs are easy to recognize because they have one enormous claw, sometimes almost as big as the rest of their body.

Why are these little crabs so important? Consider one role of our ponds and mangroves: they trap organic material and soil before it gets swept out to sea. This process counteracts erosion and also keeps the sea clean and clear, something that corals need to survive. Fiddler crabs help, bite by bite. They use their small claw to put sand in their mouth and filter out tiny bits of food from it.







It is hard to imagine what our island would be like without the fiddler crab. Our wetlands would be quite different. Familiar birds would probably be less common or gone altogether. The island could be smaller, our shorelines eroded with less protection from mangroves. Our coral reefs could be overwhelmed by algae. Rotting material trapped in the sand could even make the island smell worse. Thank goodness for our fiddler friends!





This ebook was created by Mark Yokoyama based on articles published in *The Daily Herald*'s Weekender section, which is edited by Lisa Davis Burnett. Each article highlights a species featured at Amuseum Naturalis, St. Martin's first natural history museum. Amuseum Naturalis is a free, public pop-up museum of the natural history of St. Martin and the Caribbean, created by Les Fruits de Mer and made possible by the generous sponsorship of Delta Petroleum. Visit the Amuseum for free on Tuesdays and Thursdays from 4-8pm at 96 Boulevard de Grand Case in Grand Case or online at http://amuseumnaturalis.com.